

## **DEFENSE NUCLEAR FACILITIES SAFETY BOARD**

TO: Timothy Dwyer, Technical Director  
FROM: Wayne Andrews and David Kupferer, Site Representatives  
SUBJECT: Oak Ridge Activity Report for Week Ending January 28, 2011

**Nuclear Criticality Safety (NCS).** On Tuesday, the Board's staff and site representatives participated in a teleconference with B&W and YSO regarding the status of B&W's efforts to execute its NCS improvement plan (see the 1/14/11 report). Highlights from this teleconference include the following:

- B&W recently completed a Value Stream analysis of its processes for verifying that nuclear operations are appropriately bounded by NCS evaluations,
- B&W visited Nuclear Fuel Services as part of its initiative to benchmark other criticality safety programs (see the 9/17/10 report),
- B&W plans to upgrade between 6 to 14 of its NCS evaluations during FY 2011 (see the 10/29/10 report), and
- B&W plans to brief the Board during the next few months on its review of NCS evaluations performed in response to a 1/23/09 Board letter (see the 9/17/10 report).

**Highly Enriched Uranium Materials Facility (HEUMF).** In response to a finding identified by the NNSA Operational Readiness Review of HEUMF, B&W committed to reprogram the programmable logic controller (PLC) associated with the Secondary Confinement System (SCS) to automatically transfer control of the exhaust fans to the variable inlet vane mode in the event of a loss of normal power (see the 3/5/10 and 9/10/10 reports). In October, YSO approved B&W's first annual update of the Documented Safety Analysis and Technical Safety Requirements for the HEUMF, which included the planned reprogramming of the PLC (see the 11/5/10 report). B&W is actively working to identify a path forward to allow reprogramming the PLC while keeping the facility in operation (i.e., operating for limited periods of time while both the SCS and fire suppression system are potentially inoperable). During the next few months, B&W expects to be able to reprogram the PLC, revise appropriate maintenance procedures, and perform an Implementation Validation Review of these changes.

**Neutron Generator Activities/Radiological Controls/Conduct of Operations.** While operations involving a neutron generator are being conducted in Building 9204-2E, personnel in the facility are required to wear neutron dosimeters. Two weeks ago, two personnel violated radiological control postings by entering the facility without neutron dosimeters while neutrons were being generated. When made aware of the situation, the supervisor stopped neutron generation activities and directed personnel who were not provided neutron dosimeters to leave the area. The event occurred on January 16<sup>th</sup>, but the Initial Event Notification was not distributed until January 24<sup>th</sup> and the critique was not held until January 27<sup>th</sup>. No operations involving the neutron generator took place during this timeframe. The key improvement identified during the critique was to procedurally exercise better positive control over the key that is used to operate the neutron generating equipment.